APPENDIX.

Claims of Patent No. 2,056,462 in Suit.

1. A time stable dry, fusible molding composition stable in storage and prior to hot pressing, and capable of conversion into shaped articles under heat and pressure, said composition comprising a dry, fusible urea-formaldehyde condensation product intimately admixed with a small amount of a compound, itself inert in the dry molding composition, but which generates an acidic substance only at the temperatures of molding, said compound generating sufficient amount of acidic substance, de novo and in situ, for hardening at molding temperature, and remaining sufficiently inert in the dry molding composition at temperatures below molding temperature to render the composition stable in storage and to permit flow and shaping prior to acceleration of hardening.

2. As an improvement in the manufacture of hardened, shaped molded articles by hot pressing dry, fusible, urea-formaldehyde reaction products, the improvement which comprises accelerating the hardening with an accelerator developed, de novo and in situ, during hot pressing by the thermal decomposition of an added substance admixed with said reaction products and inert in the dry composition prior to hot pressing, the added inert substance decomposing only at molding temperature to produce said accelerator, being inert in the dry composition at ordinary temperature, and remaining ineffective at temperatures below 80° C., the heat and pressure applied to the dry molding composition being sufficient to effect the softening, flowing, shaping, development of accelerator, and hardening in that order.

3. The improved process of claim 2 wherein the inert substance so generating the accelerator at molding tempera-

ture is an organic compound thermally decomposing at temperatures between 90 and 130° C. to form a new, markedly acid compound, said organic compound generating sufficient new acidity in situ to harden the shaped composition at temperatures above 90° C.

4. The process of claim 2 wherein the accelerator so developed in situ is a strong mineral acid.

5. The process of claim 2 wherein the dry molding composition is slightly alkaline prior to hot pressing and wherein the shaped composition is acidified by an acid developed, de novo and in situ, during the hot pressing.

6. The process of claim 2 wherein the dry molding composition is slightly acid, the acidity thereof being insufficient to interfere with flow in the mold, and wherein the accelerator so developed during hot pressing is an acid substance which sufficiently increases the acidity of the shaped composition to rapidly harden the shaped composition and quickly resinify the urea-formaldehyde product to an insoluble, infusible condition.

7. In the manufacture of hot pressed resinified articles from dry materials including fusible, non-resinous, urea-formaldehyde reaction products, the improvement which comprises acidifying the material with an organic acid at a time subsequent to the application of heat and pressure while continuing the heat and pressure, said acidification being effected by means of an organic acid developed and generated, in situ and de novo, during the hot pressing.

8. As an improvement in the manufacture of molded articles by hot pressing dry, fusible reaction products of ureas with aldehydes, the improvement in accelerating hardening during hot molding which comprises developing and generating, in situ and de novo, an organic compound of markedly acid character capable of accelerating the said hardening, the softening, flowing, shaping, development of hardening accelerator and hardening occurring in that order

and being effected in a single operation by the application of sufficient heat and pressure to the dry molding composition.

9. In resinifying non-resinous fusible urea-formaldehyde products by hot molding to form high grade products, the improvement which comprises subjecting such a product having formaldehyde combined with urea in molecular ratios not greater than 1.5:1 to heat and pressure in a state in which the acidity is not great enough to interfere with flow in the mold and after flow acidifying the material to accelerate resinification while continuing the heat and pressure, said acidification after flow being effected by means of a markedly acid compound developed and generated, in situ and de novo, during hot pressing.

10. An improved dry molding powder, stable in storage and at temperatures below molding temperature, and capable of being readily hot pressed into properly shaped, sound, dense, hardened molded articles, said powder comprising a dry mass of finely divided dry, fusible, urea-formaldehyde reaction product containing in admixture therewith, a small amount of a compound substantially inert in the dry powder at temperatures below molding temperature but thermally decomposing at molding temperature during hot pressing to form an acid, de novo in situ, capable of acidifying the composition and of accelerating hardening of the shaped article, the said inert compound decomposing at temperatures between 90° and 130° C. and so generating sufficient new acid to acidify and accelerate hardening of the shaped article.

11. The composition of claim 10 wherein the inert compound capable of generating new acid in situ is an organic compound liberating a strong acid by thermal decomposition and wherein between 0.1 and 0.2 parts by weight of such inert compound to 100 parts of said urea-formaldehyde reaction product is present in said molding powder.

12. An improved dry molding composition suitable for resinfication by hot pressing, comprising a fusible non-resinous urea-formaldehyde condensation product and an organic compound substantially inert in the dry composition below molding temperature but decomposing during hot pressing to produce a new organic compound of markedly acid character.

13. In the manufacture of pressure-shaped, heat-hardened, molded articles from urea-formaldehyde products, the improvement which comprises hot pressing the dry molding powder of claim 10 under sufficient heat and pressure to effect softening, flowing, shaping, development of hardening accelerator and hardening in that order and to convert the dry fusible powder into shaped, insoluble, infusible molded articles containing stable heat-hardened urea-formaldehyde resins.

14. As an improvement in the manufacture of hot pressed resinified articles from dry urea-formaldehyde molding compositions, the steps which comprise admixing a dry fusible thermoplastic urea-formaldehyde condensation product with a dry solid substance, substantially inert in the mixture at ordinary temperature, but capable of thermally decomposing only at molding temperature to develop a new acid in situ during hot pressing, to form a molding composition, stable in storage and at temperatures below molding temperature, and then subsequently hot pressing the molding composition so obtained under sufficient heat and pressure to effect the softening, flowing, shaping, development of new acid in situ and hardening in that order in a single operation, said new acid being so developed in sufficient amount to quickly accelerate the hardening of the shaped urea-formaldehyde product.